



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

III. REMARKS BY THE EDITOR.

Mr. Ballantine's result, dealing not with the given equation but with the similar one in which both limits of integration are allowed to vary, is of considerable interest, as it not only shows that the hypothesis of continuity alone suffices to restrict solutions to cubic polynomials, but also effects the proof in a very simple and elementary way. It will be remembered that in virtue of the previous remarks of Professor Bennett and the editor [1920, 462], a similar result is not obtainable for the equation as stated in the question, even with the hypothesis of a continuous first derivative, and that it remains undecided what number of derivatives between one and six will suffice.

Mr. Weisner, seeking solutions other than cubic polynomials, is led to a result practically equivalent to that stated by the editor [1920, 463]. This result was passing through the press at the time of receipt of Mr. Weisner's manuscript. It may be observed that the editor's statement shows that in Mr. Weisner's notation, when $n > 3$, r_n is necessarily of the form $2 + \beta i$, where β is a solution of a certain transcendental equation.

DISCUSSIONS.

The two discussions in this number deal with questions of analytic geometry. Professor Borger shows how curves may frequently be plotted advantageously by geometric construction of the points rather than by computation. He illustrates the method by a number of examples, both in rectangular and in polar coordinates, and also in parametric form. It is fairly clear that this method may at times be more useful and at other times much less useful than the usual plan. Surely the student should begin learning as early as possible that the mere laborious plotting of points, either arithmetically or geometrically, is generally to be used only as an incidental aid in determining the form of the curve, the important information being obtained from a functional study of the equation, first by the machinery of algebra, later also by that of the calculus.

Professor Bradshaw gives an interesting exposition of the inaccuracy of the figures usually given in the text-books on solid analytic geometry. The reader who has never before given attention to this matter will scarcely credit, until after direct examination, the uniformity of this error in our usual texts.

I. ON SOME GEOMETRIC METHODS FOR CURVE TRACING.¹

By R. L. BORGER, Ohio University.

In beginning courses in analytic geometry, curve tracing is confined almost exclusively to the process of making a table and plotting the points of the curve from the computed coordinates. This destroys in a great measure the geometric aspect of the problem, and at the same time develops in the student a quality of dependence upon the table even in cases where a geometric treatment would be simpler. For many curves in polar form, plotting from a table becomes excessively onerous. If the radius vector is a trigonometric function of the vectorial angle, the interposition of two tables becomes necessary. The student finds too that he has no means of detecting the character of a curve as he has in rectangular coordinates. Such simple curves as

¹ Read before the Mathematical Association of America, Ohio Section, Columbus, April 2, 1920.